

# NEW JERSEY SITE IMPROVEMENT ADVISORY BOARD

## Resolution #98-4

### Special Area Standards for Stormwater Management in Egg Harbor Township, Atlantic County

WHEREAS, the Township of Egg Harbor, Atlantic County has submitted a proposed special area standard to the Site Improvement Advisory Board for review pursuant to N.J.A.C. 5: 21-3.5; and

WHEREAS, Egg Harbor Township has defined the special area as that Pineland's portion of the Township which is located west of the Garden State Parkway and north of Atlantic County Alternate Route 559; and

WHEREAS, the Pinelands Commission has designated the Pinelands portion of Egg Harbor as a regional growth area and the population of the municipality is expected to continue to grow rapidly; and

WHEREAS, the Site Improvement Advisory Board held a hearing pursuant to N.J.A.C. 5:21-3.5(c) to review the proposed special area standards; and

WHEREAS, the Township of Egg Harbor has proposed an amendment to N.J.A.C. 5:21-7.5(e) that would eliminate in the special area the statewide requirement that there be a minimum of two feet between the bottom of an infiltration basin and the elevation of the seasonal high water table, and replace it with a vertical-distance requirement based on authoritative models of groundwater flow or calculations that consider soil permeability and specific yield of soil; and

WHEREAS, the Pinelands Commission has reviewed and certified the Egg Harbor Township special area ordinance; and

WHEREAS, a number of infiltration basins in Egg Harbor have failed in recent years because of the inability of stormwater runoff to percolate into the ground on a regular basis; and

WHEREAS, the Site Improvement Advisory Board finds that the modifications to N.J.A.C. 5:21-7(e) requested by the Township and enumerated below meet the criteria for special area standards set forth at N.J.A.C. 5:21-3.5(k) as follows:

1. They are consistent with the Site Improvement Act.
2. They are reasonable and not unduly burdensome. The stormwater requirements provide uniform and reasonable guidelines to determine the vertical distance between the bottom of infiltration basins and the elevation of the seasonal high groundwater table.
3. They meet the needs of public health and safety, and will help the rapidly growing municipality accommodate growth pressures and prevent basin failures.
4. They take into account existing infrastructure and surrounding development.

NOW, THEREFORE, BE IT RESOLVED that N.J.A.C. 5:21-7.5(e) shall be modified as follows for that portion of the Township of Egg Harbor that lies in the Pinelands, as delineated on the attached map.

The last sentence of 5:21-7.5(e) on vertical design constraints of infiltration facilities is amended as follows:

"In the Egg Harbor Township Special Area, to determine the needed vertical distance between the bottom of an infiltration basin and the seasonal high groundwater table, design engineers shall model groundwater flow using the Hantush method. Design engineers may use other methods to model groundwater flow, provided these methods are based on appropriate, authoritative sources.

In lieu of a model of groundwater flow, design engineers may determine the vertical separation of infiltration basins based on the following criteria:

For infiltration basins:

$$d < (P_v)(T_p) \text{ and } d_1 > d/S_y$$

For stone recharge facilities:

$$d < (P_v)(T_p)/V_r \text{ and } d_1 > d/S_y$$

Where:

$$d = \text{One-year design depth of the facility}$$

$P_v$	=	Vertical permeability based on soil testing, as specified below*
$T_p$	=	Ponding time (24 hours)
$V_r$	=	Void ratio of stone, equal to the volume of voids divided by the total volume
$d_1$	=	Depth to seasonal high groundwater from the bottom of the infiltration facility (2 feet minimum)
$S_y$	=	Specific yield, as determined in the soil testing section that follows.*

Soil testing: Soil borings shall be taken as follows: a minimum of two (2) soil borings plus one (1) boring for each one-half (1/2) acre of basin surface area or part thereof greater than one-half (1/2) acre. All borings must extend at least five (5) feet below the proposed bottom of the infiltration facility and no less than twenty (20) feet below the existing ground surface. The applicant shall notify the Township Engineer at least five (5) working days in advance of conducting the necessary borings to schedule a date and time for the Township Engineer or representative to witness said borings. Soil boring information shall be displayed on preliminary plans and include:

Soil texture as described by the United States Department of Agriculture Soil Texture Classification System

Soil colors as described in the Munsell Color Chart

Estimated depth to seasonal high groundwater based on mottling characteristics of the soil

Depth to static water level at the time of boring

Vegetation types immediately surrounding the area of the boring

Date of borings.

Soil yield: In addition, soil tests shall be performed for each boring location to determine the soil permeability and specific yield (also known as "storage capacity in confined aquifers"). Permeability tests shall be performed to determine the vertical permeability of the soil. These parameters shall be determined for the soil horizon between the proposed basin bottom and

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\*The values for both  $P_v$  and  $S_y$  shall be the most restrictive obtained down to the required soil testing depth of 20 feet below the existing ground surface.

seasonal high groundwater that will yield the lowest values of vertical permeability and specific yield. When the value of vertical permeability or specific yield varies in a specific boring location, the lowest value shall be assumed to represent that location. If a test boring location yields results that the applicant feels are not representative of the area, additional borings and tests may be taken to more accurately determine soil conditions in the area. The actual value of vertical permeability or specific yield to be used in determining the basin dimensions shall be determined by taking a weighted average of the representative borings location values with respect to the basin bottom area."

APPROVED BY: The Site Improvement Advisory Board  
DATE: December 15, 1998

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Robert C. Kirkpatrick, Jr.  
Chair

<p>I HEREBY CERTIFY the foregoing to be a true copy of the Resolution adopted by the New Jersey Site Improvement Advisory Board at its meeting of December 15, 1998.</p> <hr/> <p>Mary Ellen Handelman Secretary to the Board</p>
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